representatives from the electrical power industry. We also have individuals who are either currently working in the electrical power industry or have served in the electric power industry on our board of trustee.

MR. VARMA: Okay.

MR. GELLERMAN: So from an organizational perspective, we have input from that part of the electrical industry. On the standards development level, where they're interested, they come and sit at the standards development process, as do the manufacturers, the consumers, the insurance interests, the local authorities who care about a particular standard.

MR. VARMA: So the process that you use enables the electric power generating and transmission industry to be able to have their interests protected?

MR. GELLERMAN: Absolutely. As several people around the table have said today, an ANSI standards development process requires an open and balanced process. In that process, just about anybody who has an interest and is willing to attend the standards development meetings and review the literature that comes out, the proposed requirements and the standards and provide written comments back, is able to participate in the standards development process in a meaningful way.

MR. VARMA: And is it the Underwriters

Laboratories and representatives from the UL that actually facilitate and conduct this process for the development of standards?

MR. GELLERMAN: That's correct.

MR. VARMA: Okay. And Gordon, are these standards that are developed in that manner, voluntary standards or are all these standards mandatory?

MR. GELLERMAN: In most cases, the standards are voluntary standards. The demand drive for compliance with standards generated by Underwriters Laboratories comes from several places. It comes from the consumers. Consumers buy products that meet the requirements of UL standards because consumers want to buy safe electrical products.

Insurance interests often require that people who have facilities that are insured by them, buy and install only equipment that meets UL standards in their facilities. They want to protect their own interests.

We see a lot of demand drivers. The local code authorities may require that products which are built into buildings in their jurisdiction meet those same safety requirements. So those are voluntary standards for the most part.

There are a few UL standards that have been turned into mandatory standards. An example of that that comes to the top of my mind is the standard for garage door openers.

If anybody's bought a recent garage door opener, you notice the little electric eyes at your feet. Those electric eyes are a result of some incidents that happened with children getting hurt by garage door openers and gate operators.

When UL incorporated those requirements through our standard, actually Congress passed a law requiring garage door opener manufacturers to build products which comply with UL325, the standard for garage door openers and gate operators. So this wasn't a regulatory body going through rulemaking. This was actually an act of Congress.

There are other cases where we see a regulatory approach to it. The CPSC, in some cases, determines that products which do not comply with the UL standard for those products do not comply with the UL standard for those products are substantial product hazards and can take enforcement action against the manufacturers.

An example of that is your typical extension cords that you buy with the multiple plugs on one end and the single plug on the other end. Those products, if they do not comply with the requirements of the safety standard for extension cords, are determined to be substantial product hazard and CPSC, in many cases, forces the manufacturers and the distributors to recall those products from the U.S. marketplace.

In addition, there are several states that require

third-party certification and compliance with our standards for sale in the marketplace. I believe Maryland is one of those states, as well.

MR. VARMA: I'm just interested in the garage door example that you mentioned earlier. Had you adopted the standards before the Congress elected the law about the garage door opener safety feature?

MR. GELLERMAN: Yes.

MR. VARMA: Which one happened first?

MR. GELLERMAN: UL published the standard first and Congress passed a law that referenced our standard as being the requirement.

MR. VARMA: Were these manufacturers at that point in time who were manufacturing the openers without that safety device that prompted Congress to enact the law, or was it basically --

MR. GELLERMAN: I think field incidents prompted Congress to enact the law. Some young children were severely injured or killed in garage door opener incidents. That prompted us to initiate a standards action very quickly to work with everybody who was involved in the standards development process to find a set of requirements that could provide a reasonable level of safety for garage door openers and avoid those incidents from reoccurring. Shortly after the requirements came out, the public law was enacted which

required that of garage door openers.

MR. VARMA: Okay. So other than this example, are there any federal requirements for safety of electrical appliances?

MR. GELLERMAN: The only federal requirements for safety of electrical appliances currently in a mandatory situation are the OSHA requirements that products used in the workplace be certified by a nationally recognized testing laboratory. The nationally recognized testing laboratory program is an accreditation program for third-party certification bodies. And for the most part, they rely on UL standards as the basis for the requirements to which those products are certified.

MR. VARMA: So in essence, federal requirements are minimal?

MR. GELLERMAN: Federal requirements are minimal. That is correct?

MR. VARMA: And why is that? I mean, how does the marketplace operate with minimal federal requirements?

MR. GELLERMAN: Well, in my experience, Underwriters Laboratories standards have been in place since electrical appliances became popular in the homes. And we have been conducting our operations, developing standards for new products, providing certification for those products as a demonstration of conformity. And that really has been

a self-regulating feature. There have not been a tremendous number of incidents in the field. And usually when we see federal regulations, they're driven by field incidents.

So if you have a marketplace of products that comply with the reasonable safety standard, and that compliance is demonstrated by products in the field, there's really not a need for a federal regulation in those circumstances.

MR. VARMA: Okay. Gordon, we had some discussion this morning and this afternoon as well concerning Part 68 requirements and our certification process and the amount of time that is needed to issue registration numbers to new equipment and bringing new technology to the consumers in a timely fashion. I was wondering if you might be able to draw a parallel to that in the electric power industry side for electrical appliances. That if there are some hazards which have been identified or some features or functionalities that compromise safety, is your process able to react quickly to those identified hazards? And are you able to do it in a timely manner?

MR. GELLERMAN: I think we need to look at it from two aspects. We all need to remember that the process is two parts. There's a standards development piece to this. And developing a set of technical requirements in a standard is different than what is required to bring the product to

the marketplace. How do you demonstrate conformity with the requirements is a separate question from what are the technical requirements, and are they update, and does the pace of the technical standard move fast enough?

So really, the answer has to be given in two parts. And we'll talk about the standards part first. I'll give you specific examples -- is probably the best way.

In my experience before I took this job in governmental affairs, I was a certification engineer. I spent half of my career of 14 years doing certification, doing power supplies for PCs, and the second half of it, doing electromedical devices.

In the world of electromedical devices, we had some experiences and FDA had some experiences, and we worked together to share information, where young children were being hurt with apnea monitors. There were some very strange incidents.

We saw a way to modify the technical requirements of the standard, which at that point in time was UL544, the standard for medical and dental equipment, to eliminate the possibility of those incidents. These incidents resulted in death, for the most part. Not minor injuries, but death usually of young children.

And there were, I think if I remember my history correctly, about eight incidents in about a three-year span

of time. We became aware of the number of incidents and what the focus was on.

Once that awareness was raised, we modified the standard and implemented the new requirements as a requirement to demonstrate conformity in about a three-month cycle. I believe it took us a little bit longer to drive it through the process to the point where the ANSI process was satisfied.

But at that point in time, the requirements from UL's perspective from looking at our mission of testing for public safety, it was so important that those products be brought into the standard. As a minimum set of requirements for safety, we initiated kind of an emergency action and used a process very expedient to change the standard. And we did that about in three months. And I believe we required that those requirements in the standard were effective upon publication.

So it all happened very quickly. And you know, those kinds of things depend greatly on the need and the hazard and the level of the incidents involved. So that's what happens from the standards development process. When it needs to be fast, it can be very fast.

I think in a general rule when you're writing an entire standard or when you're dealing with issues which aren't as incident-driven, the process moves a little bit

slower. But that's to give everybody time in their normal daily life to be a part of that consensus development process and provide adequate input.

Now the other end of it is the certification process. In the United States, the process of certification, demonstration of conformity, is an open marketplace. It's a very competitive open marketplace. There are several representatives of other certifiers in the room today. And like any other competitive process, we are driven to provide high levels of customer service at reasonable prices. So that in turn drives down the time it takes from the date a manufacturer submits a product for certification to the day we send them the letter indicating that he does -- he has achieved that certification and can bear the mark.

MR. VARMA: Okay. We also had some discussion this morning about the Part 68 or anything that might be similar to that requiring the force and effect of law. And I realize that there are some similarities and some dissimilarities between the electric power industry on the one hand and the telecommunications industry on the other hand. But I wanted to ask you if there is such a force and effective law as far as the standard that UL is concerned.

MR. GELLERMAN: The question is, is there a forceful and effective law?

MR. VARMA: Right.

MR. GELLERMAN: On a federal level in certain circumstances, the answer is yes. In the garage door example I gave you, it's an act of Congress. Certainly, there's a force of law behind it. For products which are destined for the workplace, OSHA's requirements have the force of law.

Other than those two specific scenarios and maybe a couple other that I'm not giving you offhand, the answer's no, because in the United States, the process and the demand drivers behind the process, the consumer demand, the insurance interest demand, the local and state authorities demand that products demonstrate their conformity with an adequate safety standard before they're available in the marketplace is strong enough without that force of law.

MR. VARMA: A very general question actually at this point. Do you believe that there is an opportunity here for us to use that model for telecommunications, CPE under Part 68? Is there any opportunity here, even recognizing the dissimilarities between the two industries?

MR. GELLERMAN: Well, I think certainly and again, I think we need to look at the question in two parts. One in the standards development part. How do the technical requirements get developed? Do they get developed in 47 C.F.R., or do they get developed by private sector standards

development body under an ANSI-type process?

I think the answer to that is yes. I think we've heard it almost resoundingly around the table that for maybe all of, but certainly for parts of Part 68, there's an opportunity to use an independent private sector SDO to shepherd the process, maintain that open consensus forum, development requirements in an expedient format.

I think the real question is, once that's done, how is it going to be turned into a regulation if it's necessary. And then, how much time delay is there going to be between the time that the SDO publishes the requirements and the time when FCC puts those requirements into force? Is that going to go through a long process of evaluation by FCC and then a long drawn out public comment process, or are we going to have an expedient process, as Chuck suggested?

One of the things I think that hasn't really been seen here is that I would anticipate the process would have significant FCC participation. And most of the people around the able in the standards development forum I think would have the understanding that FCC had to buy into the level of technical requirements that were being proposed in order for them to flow smoothly through the process of turning into a regulation.

One of the pitfalls that we've seen with other regulations that have referenced standards, whether they be

UL standards or anybody's standards is that the regulatory bodies tend to reference a specific addition or date of a standard. And what often happens is that the private sector standards development process moves ahead because technology changes, the products change, more hazards are identified. And oftentimes the updating of the regulations to point to the newest version of the standard is far delayed.

I think we heard several instances where things are years behind, both from FCC perspective with some of the private sector standards, as well as -- I think some people mentioned how far behind some of the local jurisdictions were in updating their enforcement of the National Electrical Code, which is another private sector standard.

MR. VARMA: Do you have anything else to add in general comments or anything?

MR. GELLERMAN: The only general comment I have is I think we all need to have an understanding when it comes to what's required for market entry. And this isn't about the technical requirements now. This is about what we refer to as how do you demonstrate conformity?

I think we've heard several things here. We've heard suppliers declaration, both with and without use of an accredited laboratory. We've heard a little bit about certification as you know it, maybe from a UL perspective where we would investigate a product to determine that it

complies. Initiate some kind of a surveillance to make sure the manufacturer kept churning out that same compliant product over and over again.

I think what we all really need to understand is that the decision on what type of conformity is necessary for the marketplace should be driven by several things. One is the hazard associated with the product. I don't think anybody would want an implanted pacemaker to be free from a regulatory premarket process. The hazard is great. So we wouldn't want a system that allows a manufacturer to go to the marketplace without a significant check on what he's introducing to the marketplace to make sure people don't get hurt.

One of the problems is, is once those products are in the marketplace, recalls, while you can make them, they aren't a 100 percent effective. And once a pacemaker, for instance, is implanted, a recall isn't the pleasant alternative.

So depending -- I'm using this as an example on one end of the scale. On the other end of the scale, there are some products that are significantly lower levels of hazards. In those cases, maybe the other end of the spectrum is appropriate.

But I think the two factors -- the depth of the hazard and the incidents which the product could be involved

in is one factor. And the second factor is the confidence needs of the regulators and the marketplace in whole need to be taken into account when we determine what mechanisms are necessary for market entry, whether those be suppliers declarations, suppliers declarations with an accredited laboratories testing behind it, or a real certification from a third party.

That's all the comments, and does anybody have any other questions?

MR. VARMA: Okay. Thanks very much.

MR. GELLERMAN: Thank you.

MR. SCHROEDER: Thank you. Well, we'll open it up for a freer flowing discussion now that the opening statements are completed.

Yes, Mr. Wagner?

MR. WAGNER: John Wagner from Lucent Technologies. I'd just like to add or maybe clarify one of the comments that was made. It's true that Underwriters will act as a standards development organization and end up having a standard which ultimately may become an ANSI standard.

But in the case of the prompt action that they took in order to correct, I believe it was the garage door thing, I think it was mentioned, Underwriters, because of their dual function, as both a standards body and a "listing agency" has the ability to independent of the ANSI process,

to say, "We, as a nurtle (phonetic), may modify our own standard as we see fit independent of the ANSI standard itself. So if you choose to list your product through us, effective this afternoon, we are invoking a new requirement that exists only within our organization."

The ANSI document may well take several months to, or perhaps even longer, to follow suit. So it's a little bit different than the SDO having the ability to react almost instantly, because in that case, it would have to go through this typical review process.

MR. SCHROEDER: Thank you. Mr. Hurst?

MR. HURST: Yes. William Hurst from CCL. Just to follow up a little bit on some of the comments from Gordon, as we look at I think the process that we would like to see, that is, a very open ability through an SDO to evaluate all of the concerns from the entire industry, as we look at a particular UL model, I mean, we're talking about a private organization now that is doing this. And so, they're driven by a number of things.

We would very much like to see this an open system through -- one of the organizations had been noted, either TIA or the T(1) E(1) groups. We feel it's important that all of the players have the opportunity to participate. And within the ANSI methods of developing standards, there are different methods. We want to make certain that the most

open method is used that we do have a true consensus of the entire industry. And so, we want to make certain that it is a very open process in developing that standard.

And so, I believe that the UL example does lend itself fairly well to a standard development organization developing standards. And then we can use those standards by pointing to them within the Part 68.

MR. SCHROEDER: Thank you. I guess I'll open it up for questions from our FCC panel. Yog, would you like to start?

MR. VARMA: Yes. I have a couple of questions for Clint.

Clint, you mentioned that it takes about six months for a product to be developed. And out of that about five to six weeks, I believe, is what you said is consumed by the certification process. And you suggested as an alternative the declaration of conformity to expedite the process and to sort of do away with our Part 68 certification process, so to speak.

I was wondering if you might be able to explain a little bit more as to how much time you save by the rule of declaration of conformity, and who makes the measurements? Who does the testing? And at what point in time are those tests performed?

MR. PINKHAM: Okay. Well, to start with the

explanation of the timing involved, under the existing certification system, as I mentioned, products are prepared, sent to a test lab. It takes a test lab a finite amount of time to make the measurements and prepare the report, which is sent to the FCC. And the total time from sending the product to the test lab until that point where we receive the registration number and can actually start production or start production, those stickers that we're putting on product that we will make, is about five to six weeks typically.

In the declaration of conformity, essentially, we would still have to prepare the product. We would still have to make those measurements. But as soon as the measurements were made and we're positive, we could go ahead with production.

So basically we'd be cutting out around three to four weeks nominally from the process. Perhaps more because -- and, I may be saying something I shouldn't here. But it is not uncommon to start production on a risk basis. By that, I mean if a product's really hot and you need it right now, you can go ahead and build a certain amount of product, and betting on the come, it will. Generally, you know pretty much beforehand whether or not it will meet the standards.

If you're very confident that it will meet

standards, you can go ahead with production at the same time you start the regulatory process or the conformity process. You can't do that with the existing system because you have to wait for that number. So the time, typically, I'm saying, would be three to four weeks. But it could be as much as five as six, depending on how much risk you're willing to take.

MR. VARMA: Okay. So in essence, you are able to reduce the total amount of time by the amount of time we take for the certification process and for the issues of the registration number?

MR. PINKHAM: Basically, yes. There's always a whole lot of things going on in parallel. And obviously, you can't take one and eliminate it and say, "If I can get rid of this five-week piece, then I can save the entire five weeks." Maybe you can save only two or three or four or five. But there is a considerable amount of time in there. In my estimate for Thomson at least, it is in the three-to-four-week category.

MR. VARMA: But other than that, I take it that you would be conducting all the tests that are otherwise required. And you would perhaps maintain all the underlying data before you prepare and issue a declaration of conformity?

MR. PINKHAM: That's true. That's part of the

declaration of conformity process as defined in 48 C.F.R. Part 2. And even though my personal believe is a for a free market unhampered by any regulation, I'm tempered on this one by Thomson's position. And that's slightly different.

We are a major manufacturer. We manufacture 20 million products a year. And we plan to be in it for the long haul. So we have to be on the side of the angels. We can't put garbage out there because our customers won't have it. We can't put stuff out there that hurts the network because eventually it'll get back to us and it'll hurt us.

But we compete with other people that aren't necessarily constrained as much as we are. There's a lot of fly-by-nighters out there. And we feel that not only are there some fly by nighters, there's a lot of people out there who want to be on the good guys' side, but just don't have the technical know-how to do it. And if there is a requirement that measurements must be made by an accredited laboratory, then that laboratory will keep the vast majority of the marginal participants on the side of the angels.

There's always going to be that guy who goes out there and hires some guy in a white coat to put his name on some piece of paper and claim he's an accredited laboratory when he's not and produce garbage. Go in, make his profit and run. You're not going to protect against him with any kind of laws.

But those people who want to do the right thing, if they are faced with having measurements made by an accredited laboratory will normally take the advice of that laboratory and produce a product that does meet the standards. So we feel that the measurements by an accredited laboratory is kind of a safety net for those of us who like to feel we're on the side of the angels.

MR. VARMA: And Clint, I take it that there will be some language or some other phrase that will appear on the instrument in lieu of the registration number such as that it conforms to the requirements and so on?

MR. PINKHAM: I believe that's defined in Part 2. It would be the same procedure that's currently used for information technology equipment, computers and so forth.

MR. VARMA: Okay. Okay, thank you. I have some questions for Chuck.

Chuck, one of your recommendations was that the core technical work should be deferred to the SDOs, similar to what is done in Canada? And you described how this process is open to all the parties and how negative comments have to be responded to and those kind of things.

Development of standard is one thing. And certification of equipment that conforms with the standards is another. I was not clear if you made some recommendations as to the certification process, as well.

So even as we defer, do SDOs for the development of standards, et cetera, what would you envision as for the FCC's current registration program yourself is concerned?

MR. BERESTECKY: Let me say I did not intend in any way to address the conformity assessment aspect in my presentation. My presentation dealt with how are the technical requirements to be developed under this new paradigm? So I was recommending how that might be done in this very open process.

MR. VARMA: Okay.

MR. BERESTECKY: Threw some suggestions out there, and I'm sure there are other ways we're going to modify that. I was not in any way talking about in conformity assessment because I thought that was the topic for tomorrow. And I just want to make that clear.

Now, if you want to ask me what I think about the conformity assessment registration, I would prefer -- I'd like to have that spoke to by the TIA spokesperson. But we are interested in moving it away from certification to a supplier declaring their own conformity.

Now, when you get into the issue of whether we want lab or lab accreditation or no lab accreditation, but I think that that's an issue that we need to discuss tomorrow because I think that is the big issue there. In my view, we today have basically a system where we send it to the labs

or we get a product approved to a set of test procedures that's on the file with the Commission. The tester is not accredited in any way.

My own take is that you can do the same thing using the verification route, which is all defined in Part 2 of the Rules with the test procedures on file with some central entity. And I don't know what that is at this time. And that the manufacturer would test two requirements or test procedures that they have on file, and that they would build their own documentation file that is available under enforcement by the Commission if they find that there is an issue of noncompliance. And I believe that is no less than what you have today, because today the labs are not accredited under the current scheme.

I mean, I wasn't prepared to speak to that, but I'm just giving you again my own personal view as to how I would approach that.

MR. VARMA: Okay, thanks, Chuck. Going back for a moment to the development of standards and ANSI and SDO, the comment cycle and those kinds of things, once they come up with those standards, whose standards are they going to be? Are they going to be their standards or our standards? Whose rules are they going to be?

MR. BERESTECKY: Okay. That is why I made the comment there that once the SDO has completed its work, and

this is on the assumption that the SDO has been delegated the authority to develop technical requirements. And I'm going to use the word "technical requirements" when I talk about mandatory. I'm going to use the word "standards" when I'm talking about voluntary.

These are intended to be technical requirements that the SDO is developing. And when they go through the development cycle, we would expect that they would be codified or recognized by the Commission. And when they become recognized by the Commission, I could see that being what is in your one-page C.F.R. Part 68 that says, "Here is the pointer to where the requirements are. It's in this ANSI SDOs documentation." That's the concept that I have in mind that I was trying to put forth here.

And you can really open the process up more to be sure that it covers the world out there. When the SDO has completed its works and its ready to go out for ballot, which is under the ANSI process a 60-day ballot, we would ask and even prepare for the Commission, the SDO would, a public notice would go out announcing that we are doing this so that the public would have an opportunity besides all those who know about it ANSI of reviewing what we're doing.

And they could go right through the ballot process with us. It would, in effect, become a C.F.R. Part 68. It would not be the SDOs requirements except by the pointer.

It would be a mandatory requirement endorsed by the Commission. But we would expect FCC participation in our committees so that we are heading in the right direction.

We did that under -- when we did the harmonized document. We had a very good record with that. We did the harmonized document. We put it out. We brought in a group of people to discuss it in an open forum. Then we presented it to the Commission. There were no objections to it. So we do have history of doing it.

And I think that -- and, I'm talking about my committee, but we also have T(1) E(1) who is doing it. I believe it can be done, but it should be done under an accredited SDO.

I'm sorry if that was a little long-winded, but I wanted to --

MR. VARMA: No, I appreciate that, actually. But Chuck, I still have one concern, which is that the SDOs under the auspices of the FCC uses a public process, invites comments, responds to negative comments, and a method goes a step beyond that by asking the party that, "Look, we responded to your negative comment. Are you satisfied with the resolution?" I think is a very open public process?

MR. BERESTECKY: Yes.

MR. VARMA: But then, it appears to me that the FCC goes through a second redundant comment cycle, so to

speak. And I can see why you wish to have that process and sequence.

I was wondering if there is any possibility at all that you can suggest so that to the degree there is any redundancy at all, we might be able to do away with that.

MR. BERESTECKY: We would love to find a way to do away, but that's why we wrote the comments the way we did, and we're hoping to get other suggestions within this group. But one of the things -- one of the suggestions I just made here, which is not in the TIA comments was that when you go to the ballot process, the public notice put out by the FCC would give us the opportunity to have the open process with the people that would look at your notice to participate in the SDO with their ballots.

When we would come to you with our recommendation, you could either because of your participation in it or by looking at the record, if you have to use the Administrative Procedures Act, put it out for comment with a very short cycle, two weeks. If at the end of the two weeks, you have no comments or the comments are no different than what you've seen that's already been managed, it becomes the rules.

In other words, expedite the Administrative Procedures Act if it has to be used. We're not trying to circumvent it. I'm asking you, actually. Since you have to